de maximis, inc.

9041 Executive Park Drive
Suite 401
Knoxville, TN 37923
(615) 691-5052

November 23, 1992

Fred B. Stroud, OSC
USEPA Region IV
345 Courtland Street, N.E.
Atlanta, GA

Subject: Saad Trousdale Drive Site
Course of Action for the Franklin Brick Trench

Dear Mr. Stroud:

This will serve to confirm our previous conversations regarding the Franklin Brick trench and to request approval of a recommended course of action for activities in that specific area.

The Franklin Brick trench was excavated as part of the subsurface drum search/site characterization activities as described in Section 4.0 of the RA/FI Phase II Work Plan. The objective of the trenching was to perform activities required by the AOC to conduct a drum search and acquire additional analytical data for further site characterization. The additional data was to be compiled with existing RA/FI Phase I data to reevaluate response alternatives applicable to the site as a whole.

After obtaining the required access agreements and relocation of the Franklin Brick trailer, the trench was excavated. The trench was excavated a horizontal distance of approximately 45 feet and to a depth of approximately 12 feet. During trench excavation perched water was encountered along with stained soils and an oil-based sludge. These conditions were not unexpected and are typical of observations recorded in previous investigations. Trench waters were pumped from the excavation and soil samples were collected for analysis pursuant to the approved Work Plan. Sludge material, which flowed into the excavation from the direction of the adjacent railroad berm were removed from the excavation, segregated from the remainder of the materials and sampled for characterization and disposal. Similarly, the trench waters were containerized and sampled for disposal. According to the approved Phase II RA/FI Work Plan, the remaining trench materials were to be returned to the excavation to await development of response alternatives applicable to the entire site.

At this point, the Saad Site Steering Committee was told by the USEPA-OSC not to backfill the open excavation and to expand excavation into the railroad berm because the trench waters and oily sludge potentially posed a threat to the spring at Grassmere Park.

Water samples collected from the trench (attached) demonstrate that these waters are not hazardous and contain no detectable levels of TCLP organics. The trench water was disposed of as non-hazardous waste waters at Tricil Environmental in Antioch, TN in accordance with your approval. Likewise, water samples collected from Grassmere spring (attached) by the USEPA TAT with split samples obtained by the Group show that these waters contain no detectable organic constituents using EPA's stated choice for constituents of concern. Samples of the sludge (attached) indicate that the material is not a hazardous waste per the Toxicity Leaching Characteristic Procedures (TCLP). The oil based sludge sample is being evaluated further with respect to characteristics of sulfide reactivity.

Based on the analytical results and in conformance with the approved Work Plan, we propose to place the excavated soils and materials except for the oil based sludge and trench waters in the trench as backfill. As this project is in the site characterization phase of activities, any response action for the railroad berm should include a well-planned and adequately engineered approach. We can then proceed to complete implementation of the approved RA/FI Work Plan and development of a comprehensive response strategy to address the entire site and the CSX railroad berm, if appropriate. Outlined below are several items which support this course of action.

1. Technical Impracticality

From an engineering perspective, and timing standpoint it would be impossible to excavate into the CSX railroad berm and complete Work Plan activities within the approved RA/FI Phase II Schedule. Considerable engineering work would be required as would approval of the activities by CSX and substantial additional equipment and space would be required to safely dig into the structure; it is conceivable that pilings would need to be driven in the berm, trench boxes or shoring of the existing trench would be mandated by OSHA regulations, and the communications line at the top of the berm would have to be relocated. Continued excavation into the railroad berm would require an integrated effort by CSX and Franklin Brick as their operations will be greatly affected. Digging into the berm would cause the railroad to close several tracks, and disrupt business at Franklin Brick. In order to remain on schedule, work on the berm should be postponed until a later phase of work. We are in the site characterization phase of activities; a response action for the berm, if required, should include a well-planned and adequately engineered approach.

2. CSX Direction

CSX's position regarding the continued excavation of the berm area has been transmitted to the Group by their legal counsel. CSX will not allow any excavation to proceed below the standard roadbed as illustrated in cross-sections attached to their position letter (provided to Beth Davis by Drew Goddard). CSX personnel inspected the site and installed grading stakes to delineate the western limit of excavation. We are currently at the depth limit and western limit detailed by CSX. As provided in the CSX correspondence of 2 November 92, "The attached drawings show this line and CSXT cannot allow open excavation to extend beyond or inside this line since the C and D tracks are active main line tracks." This correspondence further indicates that "the current excavation, while not extending beyond the roadbed line, does create a significant risk of slope failure." CSX will require a detailed stabilization plan prior to any further excavation; the preparation of the plan and obtaining CSX approval would further impinge on the project schedule.

3. Perched Water Conditions

Subsurface hydrogeological conditions have been closely observed during trenching operations and the soil borings completed over the past year. Actual field conditions indicate that the water we are encountering in the shallow subsurface is perched or ephemeral in nature. During excavation activities we have repeatedly observed water at shallow depths (7-8 ft) in certain locations, and then after moving horizontally 10 ft we discover that we can dig to bedrock without encountering saturated conditions. The anomalous hydrogeologic setting is attributed to a preponderance of fill material at the site (i.e. large boulders with ample inter-boulder space for the accumulation of water) and a rather tight clay horizon that overlies the bedrock. In addition, the railroad berm, which is approximately 15-20 ft topographically higher than the site acts as reservoir for other water. When a trench is excavated along the berm we have observed the flow of water from the berm into the direction of the site.

4. Potential Off-site to On-site Migration

The only studies of which we are aware indicate a hydraulic gradient from northwest to southeast. Based on the studies and observations, as noted in No. 3 above recorded during the trenching operations, it is possible that migration onto the site from upgradient off-site sources could be occurring. This possibility would need to be assessed prior to the formulation of any plan for addressing the berm. The current open Franklin Brick trench is already off-site to the west. Digging further west and

hydraulically upgradient of the potential receptor (spring) identified by EPA would not be prudent without this assessment.

5. Space Requirements

Materials excavated from the Franklin Brick trench and the open excavation present a severe space limitation for effectively completing the remainder of the site work. The work plan implementation will eventually be stopped until the work in the Franklin Brick trench is completed. We will continue implementation of the approved Work Plan and any amendments to the maximum extent possible.

6. Safety Hazard

The open excavation represents a health and safety risk. The open excavation is a legitimate safety hazard. EPA instructed the Group to leave the excavation open; the Group has taken reasonable precautions to limit access to the area but the potential instability of the berm presents a potential hazard to the public and CSX operations. As stated in No. 2 above, the current trench condition poses a risk of collapse.

In summary, the foregoing discussion explains the rationale to support the recommendation to put the excavated materials into the trench as backfill and proceed with completion of the Work Plan including development of response alternatives applicable to the entire site. Your expedited consideration of and written response to this request would be greatly appreciated. If no response is received within 10 days, the Saad Site Steering Committee will, in accordance with the approved Work Plan, backfill the Franklin Brick trench with excavated materials (excluding the oil based sludge and trench waters). If you have questions concerning the information provided, please contact me at (615) 691-5052.

Best regards,

Bennie L. Underwood
Project Coordinator

BU/lah

cc: Beth Davis
Saad Site Executive Committee

file berm.ltr:3034

2 4 0730

SPECIALIZED ASSAYS
ENVIRONMENTAL

300 12th Avenue South
Nashville, Tennessee 37203

Sample	Access
FBT-WS01	92 8448
Collection Date	**Time** / **Receiv**
10/12/92	00:00 / 10/14/
Referring Client	**Client ID** / **Report**
JOE PUTNAM	SAAD / 10/18/

Test	Result	Units	Reference Limits
TCLP ZHE EXTRACTION			
T.C.L.P. EXTRACTION			
TCLP METALS			
METHOD NUMBER	6010/7740/7470/7060		
ARSENIC	<0.10	PPM	
BARIUM	1.13	PPM	
CADMIUM	<0.10	PPM	
CHROMIUM, TOTAL	<0.50	PPM	
LEAD	<0.50	PPM	
MERCURY	<0.010	PPM	
SELENIUM	<0.10	PPM	
SILVER	<0.10	PPM	
TCLP VOLATILES			
METHOD NUMBER	8240		
BENZENE	<0.10	PPM	
CARBON TETRACHLORIDE	<0.10	PPM	
CHLOROBENZENE	<0.10	PPM	
CHLOROFORM	<0.10	PPM	
1,2-DICHLOROETHANE	<0.10	PPM	
1,1-DI-CL-ETHYLENE	<0.10	PPM	
2-BUTANONE (MEK)	<1.0	PPM	
TETRACHLOROETHYLENE	<0.10	PPM	
TRICHLOROETHYLENE	<0.10	PPM	
VINYL CHLORIDE	<0.10	PPM	
TCLP EXTRACTABLES			
METHOD NUMBER	8270		
PYRIDINE	<0.10	PPM	
O-CRESOL	<0.10	PPM	
M-CRESOL	<0.10	PPM	
P-CRESOL	<0.10	PPM	
1,4-DICHLOROBENZENE	<0.10	PPM	
2,4-DINITROTOLUENE	<0.10	PPM	
HEXACHLOROBUTADIENE	<0.10	PPM	
HEXACHLOROETHANE	<0.10	PPM	
NITROBENZENE	<0.10	PPM	
PENTACHLOROPHENOL	<0.10	PPM	

DRE ENVIRONMENTAL SERVICES INC Telephone: 000 373 1373
ATT. JOE PUTNAM
P.O. BOX 987
BRENTWOOD TN 37027 4437

ENVIRONMENTAL
200 12th Avenue South
Nashville, Tennessee 37203

Sample	Access
FBT-WS01	92 84488
Collection Date	**Time** / **Receive**
10/12/92	00:00 / 10/14/9
Referring Client	**Client ID** / **Reporte**
JOE PUTNAM	SAAD / 10/18/9

Test	Result	Units	Reference Limits
2,4,5-TRICHLORPHENOL	<0.10	PPM	
2,4,6-TRI CL PHENOL	<0.10	PPM	
HEXACHLOROBENZENE	<0.10	PPM	
TCLP PESTICIDE/HERB			
METHOD NUMBER	8080		
CHLORDANE	<0.015	PPM	
ENDRIN	<0.010	PPM	
HEPTACHLOR	<0.005	PPM	
HEPTACHLOREPOXIDE	<0.005	PPM	
LINDANE	<0.20	PPM	
METHOXYCHLOR	<1.0	PPM	
TOXAPHENE	<0.25	PPM	
2,4,-D	<5.0	PPM	
2,4,5-TP(SILVEX)	<0.50	PPM	
SPIKE RECOVERY DATA			
*ARSENIC TCLP SPIKE	108	% REC	
*BARIUM TCLP SPIKE	96	% REC	
*CADMIUM TCLP SPIKE	92	% REC	
*CHROMIUM TCLP SPIKE	113	% REC	
*LEAD	112	% REC	
*MERCURY	87	% REC	
*SELENIUM	104	% REC	
*SILVER	94	% REC	
***VINYL CHLORIDE	74	% REC	
***1,1-DCE	92	% REC	
***1,2-DCA	101	% REC	
***CHLOROFORM	108	% REC	
***2-BUTANONE	119	% REC	
***CARBONTET	121	% REC	
***TCE	102	% REC	
***BENZENE	107	% REC	
***PCE	114	% REC	
***CHLOROBENZENE	110	% REC	
*PYRIDINE	52	% REC	
*O-CRESOL	64	% REC	
*M-CRESOL	48	% REC	

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2 4 0702

OCT 20 '92 17:3: BASS, BERRY, SIMS P.3/28

SPECIALIZED ASSAYS
ENVIRONMENTAL

300 12th Avenue South
Nashville, Tennessee 37203

Sample	Access
F8T-WS01	92 84486
Collection Date	**Time** / **Receive**
10/12/92	00:00 10/14/9
Referring Client	**Client ID** / **Reporte**
JOE PUTNAM	SAAD 10/18/9

Test	Result	Units	Reference Limits
*P-CRESOL	48	% REC	
*1,4-DICHLOROBENZENE	51	% REC	
*2,4-DINITROTOLUENE	46	% REC	
*HEXACHLOROBUTADIENE	49	% REC	
*HEXACHLOROETHANE	41	% REC	
*NITROBENZENE	67	% REC	
*PENTACHLOROPHENOL	48	% REC	
*2,4,5-TRICHLOROPHEN	45	% REC	
*2,4,6-TRICHLOROPHEN	46	% REC	
*HEXACHLOROBENZENE	96	% REC	
*CHLORDANE	78	% REC	
*ENDRIN	98	% REC	
*HEPTACHLOR	80	% REC	
*HEPTACHLOR EPOXIDE	140	% REC	
*LINDANE	96	% REC	
*METHOXYCHLOR	80	% REC	
*TOXAPHENE	74	% REC	
**2,4-D	86	% REC	
**2,4,5-TP SILVEX	81	% REC	

TCLP preparation follows method 1311 SW-846 as revised June 29, 1990 (55 CFR 26986). All data is corrected from matrix spike recoveries.
APPROVED BY PAUL E. LANE, JR., LAB SUPERVISOR

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2 4 0703

SPECIALIZED ASSAYS
ENVIRONMENTAL

300 12th Avenue South
Nashville, Tennessee 37203

Sample		Accession
FBT-WSI (844860)		92 845600
Collection Date	**Time**	**Received**
10/19/92	00:00	10/20/92
Referring Client	**Client ID**	**Reported**
JOE PUTNAM		10/23/92

Test	Result	Units	Reference Limits
CORROSIVITY TEST	SAMPLE NOT CORROSIVE		
REACTIVITY TEST			
REACTIVE CYANIDE	<2.0	PPM	
REACTIVE SULFIDE	19	PPM	
IGNITABILITY TEST	SAMPLE NOT IGNITABLE AS DEFINED BY CFR 261.21 HEADSPACE DOES NOT FLASH TO 200 F		
B.T.U. DETERMINATION	SAMPLE WILL NOT IGNITE.		
K. F. MOISTURE	1000000	PPM	
ASH	99.3	PERCENT	
SPECIFIC GRAVITY	1.0073		
BROMIDE	<10	PPM	
CHLORINE,RESIDUAL	66	PPM	
FLUORIDE,ELECTRODE	0.47	PPM	
IODIDE	<100	PPM	
SULFUR	11.5	PPM	

Environmental Lab
Supervisor

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SPECIALIZED ASSAYS
ENVIRONMENTAL

300 12th Avenue South
Nashville, Tennessee 37203

RECEIVED NOV 3 0 1992

Sample	3034-15	Accession
CRAFT SPRING GRASSMERE		92 845919
Collection Date	Time	Received
10/21/92	00:00	10/21/92
Referring Client	Client ID	Reported
JOE PUTNAM	SAAD	10/28/92

Test	Result	Units	Reference Limits
PRIORITY POLLUTANTS			
METHOD NUMBER	8240		
QUANTITATION LIMIT	0.010	PPM	
BENZENE	ND		
BROMOFORM	ND		
CARBON TETRACHLORIDE	ND		
CHLOROBENZENE	ND		
CHLORODIBRMETHANE	ND		
CHLOROETHANE	ND		
2-CLETHYVINYL ETHER	ND		
CHLOROFORM	ND		
DI-CL-BR-METHANE	ND		
1-1-DICHLOROETHANE	ND		
1,2-DICHLOROETHANE	ND		
1,1-DI-CL-ETHYLENE	ND		
1,2-DICHLOROPROPANE	ND		
,3-DICHLOROPROPENE	ND		
ETHYLBENZENE	ND		
METHYL BROMIDE	ND		
METHYL CHLORIDE	ND		
METHYLENE CHLORIDE	ND		
1,1,2,2 TET CL ETHAN	ND		
TETRACHLOROETHYLENE	ND		
TOLUENE	ND		
1,2-DICHLOROETHYLENE	ND		
1,1,1-TRI-CL-ETHANE	ND		
1,1,2-TRI-CL-ETHANE	ND		
TRICHLOROETHYLENE	ND		
TRI-CL-F-METHANE	ND		
VINYL CHLORIDE	ND		
XYLENE	ND		
METHOD NUMBER	8270		
QUANTITATION LIMIT	0.010	PPM	
2-CHLOROPHENOL	ND		
2,4-DICHLOROPHENOL	ND		
2,4-DIMETHYLPHENOL	ND		

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SPECIALIZED ASSAYS
ENVIRONMENTAL

300 12th Avenue South
Nashville, Tennessee 37203

Sample	2 4 0705	Accession
CRAFT SPRING GRASSMERE		92 845919
Collection Date	**Time**	**Received**
10/21/92	00:00	10/21/92
Referring Client	**Client ID**	**Reported**
JOE PUTNAM	SAAD	10/28/92

Test	Result	Units	Reference Limits
2,4-DINITROPHENOL	ND		
2-NITROPHENOL	ND		
4-NITROPHENOL	ND		
P-CHLORO-M-CRESOL	ND		
PENTACHLOROPHENOL	ND		
PHENOL	ND		
2,4,6-TRI CL PHENOL	ND		
ACENAPTHENE	ND		
ACENAPTHTYLENE	ND		
ANTHRACENE	ND		
BENZIDINE	ND		
BENZO(A)ANTHRACENE	ND		
BENZO(A)PYRENE	ND		
BENZO(B)FLUORANTHENE	ND		
BENZO(GHI)PERYLENE	ND		
BENZO(K)FLUORANTHENE	ND		
BIS-2-CL-ETHOX METHA	ND		
BIS(2-CL-ETHYL)ETHER	ND		
BIS(2-CL-ISOPRO)ETHR	ND		
BIS(2-ETH-HEX)PHTHAL	ND		
4-BR-PHEN-PHEN-ETHER	ND		
BUTYL-BENZ-PTHALATE	ND		
2-CHLORONAPTHALENE	ND		
4-CL-PHEN-PHEN-ETHER	ND		
CHRYSENE	ND		
DIBENZ(A,H)ANTHRACEN	ND		
1,2-DICHLOROBENZENE	ND		
1,3-DICHLOROBENZENE	ND		
1,4-DICHLOROBENZENE	ND		
3,3'-DICL BENZIDINE	ND		
DIETHYL PHTHALATE	ND		
DIMETHYL PHTHALATE	ND		
BENZO(E)PYRENE	ND		
DI-N-BUTYL PHTHALATE	ND		
2,4-DINITROTOLUENE	ND		
2,6-DINITROTOLUENE	ND		

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SPECIALIZED ASSAYS
ENVIRONMENTAL

300 12th Avenue South
Nashville, Tennessee 37203

Sample	Accession
CRAFT SPRING GRASSMERE 2 4 0706	92 845919

Collection Date	Time	Received
10/21/92	00:00	10/21/92

Referring Client	Client ID	Reported
JOE PUTNAM	SAAD	10/28/92

Test	Result	Units	Reference Limits
DI-N-OCTYL PHTHALATE	ND		
1,2-DIPHEN-HYDRAZINE	ND		
FLUORANTHENE	ND		
FLUORENE	ND		
HEXACHLOROBENZENE	ND		
HEXACHLOROBUTADIENE	ND		
HEXCLCYCLOPENTADIENE	ND		
HEXACHLOROETHANE	ND		
INDENO(1,2,3-CD)PYR	ND		
ISOPHORONE	ND		
NAPTHALENE	ND		
NITROBENZENE	ND		
N-NIT-DIMETHYLAMINE	ND		
N-NIT-DINPROPYLAMINE	ND		
N-NIT-DIPHENYLAMINE	ND		
PHENANTHRENE	ND		
PYRENE	ND		
1,2,4-TRICHLOROBENZ	ND		
METHOD NUMBER	8080		
QUANTITATION LIMIT	0.010	PPM	
ALDRIN	ND		
ALPHA BHC	ND		
BETA BHC	ND		
GAMMA BHC	ND		
DELTA BHC	ND		
CHLORDANE	ND		
4,4'DDT	ND		
4,4'DDE	ND		
4,4'DDD	ND		
DIELDRIN	ND		
ALPHA ENDOSULFAN	ND		
BETA ENDOSULFAN	ND		
ENDOSULFAN SULFATE	ND		
ENDRIN	ND		
ENDRIN ALDEHYDE	ND		
HEPTACHLOR	ND		

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BRENTWOOD TN 37027

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SPECIALIZED ASSAYS
ENVIRONMENTAL

300 12th Avenue South
Nashville, Tennessee 37203

Sample		Accession
CRAFT SPRING GRASSMERE		92 845919
Collection Date	**Time**	**Received**
10/21/92	00:00	10/21/92
Referring Client	**Client ID**	**Reported**
JOE PUTNAM	SAAD	10/28/92

Test	Result	Units	Reference Limits
HEPTACHLOREPOXIDE	ND		
METHOXYCHLOR	ND		
PCB 1242	ND		
PCB 1254	ND		
PCB 1221	ND		
PCB 1232	ND		
PCB 1248	ND		
PCB 1260	ND		
PCB 1016	ND		
TOXAPHENE	ND		

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ENVIRONMENTAL

300 12th Avenue South
Nashville, Tennessee 37203

Sample	Access
FBT-SLUDGE 01	92 8448
Collection Date	**Time** / **Recei**
10/14/92	00:00 / 10/14/
Referring Client	**Client ID** / **Report**
JOE PUTNAM	SAAD / 10/16/

Test	Result	Units	Reference Limits
TCLP ZHE EXTRACTION	10/15/92		
T.C.L.P. EXTRACTION			
TCLP METALS			
METHOD NUMBER	6010/7740/7470/7060		
ARSENIC	<0.10	PPM	
BARIUM	1.81	PPM	
CADMIUM	<0.10	PPM	
CHROMIUM, TOTAL	<0.50	PPM	
LEAD	<0.50	PPM	
MERCURY	<0.010	PPM	
SELENIUM	<0.10	PPM	
SILVER	<0.10	PPM	
TCLP VOLATILES			
METHOD NUMBER	8240		
BENZENE	<0.10	PPM	
CARBON TETRACHLORIDE	<0.10	PPM	
CHLOROBENZENE	<0.10	PPM	
CHLOROFORM	<0.10	PPM	
1,2-DICHLOROETHANE	<0.10	PPM	
1,1-DI-CL-ETHYLENE	<0.10	PPM	
2-BUTANONE (MEK)	<1.0	PPM	
TETRACHLOROETHYLENE	<0.10	PPM	
TRICHLOROETHYLENE	<0.10	PPM	
VINYL CHLORIDE	<0.10	PPM	
TCLP EXTRACTABLES			
METHOD NUMBER	8270		
PYRIDINE	<0.10	PPM	
O-CRESOL	<0.10	PPM	
M-CRESOL	<0.10	PPM	
P-CRESOL	<0.10	PPM	
1,4-DICHLOROBENZENE	<0.10	PPM	
2,4-DINITROTOLUENE	<0.10	PPM	
HEXACHLOROBUTADIENE	<0.10	PPM	
HEXACHLOROETHANE	<0.10	PPM	
NITROBENZENE	<0.10	PPM	
PENTACHLOROPHENOL	<0.10	PPM	

URE ENVIRONMENTAL SERVICES INC Telephone: 000 373 1373
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300 12th Avenue South
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Sample		Access
FBT-SLUDGE 01		92 8448
Collection Date	Time	Receiv
10/14/92	00:00	10/14/
Referring Client	Client ID	Report
JOE PUTNAM	SAAD	10/18/9

Test	Result	Units	Reference Limits
2,4,5-TRICHLORPHENOL	<0.10	PPM	
2,4,6-TRI CL PHENOL	<0.10	PPM	
HEXACHLOROBENZENE	<0.10	PPM	
TCLP PESTICIDE/HERB			
METHOD NUMBER	8080		
CHLORDANE	<0.015	PPM	
ENDRIN	<0.010	PPM	
HEPTACHLOR	<0.005	PPM	
HEPTACHLOREPOXIDE	<0.005	PPM	
LINDANE	<0.20	PPM	
METHOXYCHLOR	<1.0	PPM	
TOXAPHENE	<0.25	PPM	
2,4,-D	<5.0	PPM	
2,4,5-TP(SILVEX)	<0.50	PPM	
SPIKE RECOVERY DATA			
*ARSENIC TCLP SPIKE	110	% REC	
*BARIUM TCLP SPIKE	86	% REC	
*CADMIUM TCLP SPIKE	84	% REC	
*CHROMIUM TCLP SPIKE	103	% REC	
*LEAD	106	% REC	
*MERCURY	94	% REC	
*SELENIUM	103	% REC	
*SILVER	89	% REC	
***VINYL CHLORIDE	98	% REC	
***1,1-DCE	110	% REC	
***1,2-DCA	108	% REC	
***CHLOROFORM	105	% REC	
***2-BUTANONE	124	% REC	
***CARBONTET	125	% REC	
***TCE	104	% REC	
***BENZENE	110	% REC	
***PCE	111	% REC	
***CHLOROBENZENE	110	% REC	
*PYRIDINE	38	% REC	
*O-CRESOL	47	% REC	
*M-CRESOL	42	% REC	

E ENVIRONMENTAL SERVICES INC Telephone: 000 373 1373
ATT. JOE PUTNAM
P.O. BOX 987
BRENTWOOD TN 37027 4437

2 4 0790

SPECIALIZED ASSAYS
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300 12th Avenue South
Nashville, Tennessee 37203

Sample	Access
FBT-SLUDGE 01	92 8448-
Collection Date	**Time**	**Receive**
10/14/92	00:00	10/14/9
Referring Client	**Client ID**	**Reporte**
JOE PUTNAM	SAAD	10/18/9

Test	Result	Units	Reference Limits
*P-CRESOL	42	% REC	
*1,4-DICHLOROBENZENE	49	% REC	
*2,4-DINITROTOLUENE	68	% REC	
*HEXACHLOROBUTADIENE	37	% REC	
*HEXACHLOROETHANE	44	% REC	
*NITROBENZENE	66	% REC	
*PENTACHLOROPHENOL	65	% REC	
*2,4,5-TRICHLOROPHEN	80	% REC	
*2,4,6-TRICHLOROPHEN	84	% REC	
*HEXACHLOROBENZENE	76	% REC	
*CHLORDANE	103	% REC	
*ENDRIN	105	% REC	
*HEPTACHLOR	104	% REC	
*HEPTACHLOR EPOXIDE	90	% REC	
*LINDANE	120	% REC	
*METHOXYCHLOR	80	% REC	
*TOXAPHENE	66	% REC	
**2,4-D	96	% REC	
**2,4,5-TP SILVEX	94	% REC	

TCLP preparation follows method 1311 SW-846 as revised June 29, 1990 (55 CFR 26986). All data is corrected from matrix spike recoveries.
APPROVED BY PAUL E. LANE, JR., LAB SUPERVISOR

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BRENTWOOD TN 37027 4437

SPECIALIZED ASSAYS
ENVIRONMENTAL

300 12th Avenue South
Nashville, Tennessee 37203

2-4-11/23

Sample	Accession
FBT SLUDGE 01 (844846)	92 845599

Collection Date	Time	Received
10/19/92	00:00	10/20/92

Referring Client	Client ID	Reported
JOE PUTNAM		10/23/92

Test	Result	Units	Reference Limits
CORROSIVITY TEST	SAMPLE NOT CORROSIVE		
REACTIVITY TEST			
REACTIVE CYANIDE	<2.0	PPM	
REACTIVE SULFIDE	1320	PPM	
IGNITABILITY TEST	SAMPLE NOT IGNITABLE AS DEFINED BY CFR 261.21 HEADSPACE FLASHED AT 160 F		
B.T.U. DETERMINATION	4350	BTU'S/POUND	
K. F. MOISTURE	377200	PPM	
ASH	91.3	PERCENT	
SPECIFIC GRAVITY	1.5894		
BROMIDE	<10	PPM	
CHLORINE,RESIDUAL	220	PPM	
FLUORIDE,ELECTRODE	2.6	PPM	
IODIDE	<100	PPM	
SULFUR	2408	PPM	

Environmental Lab
Supervisor

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